UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
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SIMO HOLDINGS INC.

        Plaintiff,

      v.   **Civil Action No.: 1:18-cv-5427 (JSR)**

HONG KONG UCLOUDLINK
NETWORK TECHNOLOGY LIMITED,
AND UCLOUDLINK (AMERICA), LTD.

        Defendants.

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PLAINTIFF SIMO HOLDINGS INC.'S BRIEF EXPLAINING WHY UCLOUDLINK'S
REDESIGNED PRODUCTS STILL PRACTICE EVERY CLAIM OF THE '689 PATENT

I.   **INTRODUCTION**

uCloudlink has twice presented the Court with an incomplete picture of its device functionality. It is only through the declaration of SIMO's expert, Eric Welch, that a full picture of the uCloudlink "redesign" functionality becomes visible. This full picture demonstrates that uCloudlink's devices are still designed with a feature that permits them to infringe the U.S. Patent No. 9,736,689 (the "'689 Patent"). (*See* Declaration of Eric Welch, Exhibit A to the Declaration of Matthew Weldon submitted herewith ("Ex. A") at ¶¶ 64–68)).

In granting SIMO's motion for summary judgment, this Court emphasized that the devices need only infringe "at least some of the time" in order to be deemed infringing. Dkt. 163 at 28. The redesigned devices' cloud SIM connection procedures—***in particular those procedures uCloudlink fails to detail***—demonstrate that the redesigned products still operate according to the claims of the'689 Patent "at least some of the time" and thus still infringe the '689 Patent.

uCloudlink's briefing and evidence is focused on the claim term: "the data communication link is distinct from the local cellular communication network." '689 Patent at 25:17–26. This Court has construed this claim term as meaning: "the data communication link is not using the local cellular communication network." Dkt. 64 at 27. uCloudlink contends its redesigned products no longer infringe the '689 Patent because "the seed SIM and the cloud SIM always connect to the *same* network." Dkt. 282 at 8 (emphasis in original). But this is untrue. As is explained in more detail herein, uCloudlink's redesign continues to infringe because under certain conditions (i.e., "at least some of the time"), the data communication link is established on a first cellular communication network and the system later relies on a distinct, second cellular communication network that was not used by (or even known) when the data communication link was established.

II.   **ARGUMENT**

A.   **The '689 Patent**

The following claim terms are relevant to the analysis of uCloudlink's re-design:

"establishing a data communication link to transmit information among the wireless communication client or the extension unit, and the remote administration system"[1]

"the data communication link is distinct from the local cellular communication network"

"relaying the local authentication information request to the remote administration system via the data communication link and obtaining suitable local authentication information from the remote administration system via the data communication link"

The data communication link in the '689 Patent represents the transmission pathway between the client-side device and the remote administration system (i.e., the backend server). Dkt. 163 at 21–22 ("As SIMO points out; data is indisputably exchanged between the Accused Products and the backend servers…Accordingly, this limitation is satisfied as to the Accused Products."). The '689 Patent, however, does not restrict the "avenues" or pathways for data communication; indeed, the Court's construction reflects this concept by merely requiring that "data communication link" is a "communication link capable of transmitting data." *See* Dkt. 293-1 at ¶ 35. As long as the endpoints are as required by the claims (e.g., the uCloudlink device and the uCloudlink server), a change in the physical layers used to transmit packets does not change the fact that a data communications link has already been established.

The language of the claims of the '689 Patent also specifies certain aspects of the claimed "local cellular communication network." Importantly for the issue being briefed herein, the claims require that the "data communication link is distinct from the local cellular communication

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[1] Notably, while the "establishing" limitation provides the first introduction of the claimed "data communication link, Dr. Olivier does *not* rely on this limitation as a basis for his conclusion that the redesigned products do not infringe. Dkt. 293-1 at ¶ 120.

network," which the Court has construed as meaning that "the data communication link is not using the local cellular communication network." *See* Dkt. 293-1 at ¶ 35. The Court summarized what is required to meet the pertinent limitations of claim 8 of the '689 Patent in its Order on SIMO's Motion for Summary Judgment of infringement:

> Thus, to meet this limitation, it must be the case that the local cellular network used by the seed SIM is different from the local cellular network used by the Cloud SIM. That will sometimes, but not always, be the case.

Dkt. 163 at 28. As described in Mr. Welch's Report, the redesigned products do not eliminate this functionality, and thus still infringe the claims of the '689 Patent. Ex. A at ¶¶ 36–63.[2] And because the modifications that do not involve adding checks to the process (i.e., those modifications that matter for the colorable differences analysis, *see* Ex. 293-1 at ¶ 31) are not significant differences from the original design, the differences are not more than colorable and the injunction should cover the redesigned products.[3]

B.   uCloudlink's Redesign Allows for the Data Communication Link to Use Multiple Networks

1.   The Parties' Expert Witnesses Confirm that the uCloudlink Devices Still Operate in an Infringing Manner "At Least Some of the Time"

uCloudlink has not implemented a redesign that prevents the data communication link from using a network other than "the local cellular communication network." That is, in a certain set of

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[2] Indeed, as Mr. Welch explained, the original source code appears still to (a) be present in compiled, executable form on the purportedly redesigned devices in the U.S. and (b) provide the exact same functionality, when executed, on which basis this Court previously granted summary judgment of infringement. Ex. A at ¶ 57.

[3] SIMO requested that uCloudlink provide a redline comparison showing the source code changes from the original devices' source code (which this Court found to infringe) to the redesigned products' source code. uCloudlink did not do so. SIMO also requested that uCloudlink provide both code bases on the same review computer, so that SIMO could do that comparison itself. uCloudlink did not do so. And Dr. Olivier did not actually do any analysis of how the source code had *changed*. Mr. Welch, by doing manually what could have been easily done automatically, estimates that less than 0.1% of the pertinent (*i.e.*, requested for production) source code was changed in the redesigned uCloudlink devices. *See* Ex. A at ¶ 334.

scenarios (e.g., where the uCloudlink device is unable to obtain a cloud SIM that is compatible with the seed SIM), even uCloudlink's expert concedes that the uCloudlink device *will* change its seed SIM network to match that of the cloud SIM. *See, e.g.*, Ex. 293-1 at ¶ 85 (regarding uCloudlink server operations), ¶ 92 (regarding uCloudlink G2, E1/U2, and G3 devices), ¶ 103 (regarding S1 device)). Mr. Welch agrees, and explains with additional source code detail omitted from Dr. Olivier's declaration that the code in fact switches seed SIM networks to be compatible with the cloud SIM network. Ex. A at ¶¶ 36–63.

Mr. Welch explains that in both versions of the uCloudlink dual modem devices (the G2, E1/U2, and G3 devices) and in both versions of the uCloudlink single modem device (the S1 device), certain scenarios can exist in which the device performs login to the uCloudlink remote server by roaming on a first seed SIM network (e.g., AT&T) and ultimately authenticating themselves on a different, second seed SIM network (e.g., Verizon) for data communications. Ex. A at ¶ 37. In these scenarios, for the new version, the second seed SIM network is selected because that network corresponds to a received cloud SIM, meaning the redesigned devices still effectuate a *switch* from AT&T to Verizon during the process of login and authentication. *Id*. In the original version, the same mechanism is used where the Seed SIM and the Cloud SIM sometimes do not use the same network carrier to connect to the internet. *Id*. This is precisely the analysis the Court previously did in finding that the original devices infringe the '689 patent. *Id*. at ¶ 38.

uCloudlink also argues that the "relaying…" limitation is not met because the information required to be relayed is not sent over the "data communication link." *See, e.g.*, Ex. 293-1 at ¶¶ 60-61. This, too, is incorrect. Though the network topology that makes up the data communication link may change throughout the course of a handshaking process, the claims require distinctness (and, according to the Court's claim construction, "not using") at the time a local authentication

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information request is established. Ex. A at ¶ 49. At the time the "relaying…" limitation must be

met, there is no longer a requirement in the claim that the data communication link be distinct from

the local cellular communication network, only that the local authentication information request

be relayed via this link from one original endpoint (the uCloudlink device) to the other original

endpoint (the uCloudlink back-end server). *Id*. Thus, the "relaying…" limitation is also satisfied

by the redesigned uCloudlink devices. *Id*.

2.   uCloudlink's Fact Witness Admits that the Redesigned Devices Do What this Court Previously Found Infringes

In his September 10, 2019 declaration, uCloudlink's technical expert, Zhihui Gong admits

that the data communication link may use a network other than "the" local cellular communication

network. Dkt. 278 at ¶ 13. Specifically, in an ideal situation, the device, using the seed SIM,

connects on a roaming basis to a local cellular communication network, so the data communication

link can facilitate the acquisition of a cloud SIM that "is capable of roaming" with that same local

cellular communication network and proceed with setting up the services. *Id.* However, if the cloud

SIM cannot roam on that same network local network, the device requests a "different cloud SIM

from the backend server." *Id.* "If no successful cloud SIM is found," the device will instruct the

seed SIM to "connect[] a network *other than* [the original network]" and "repeat the entire

process." *Id.* (emphasis added). Mr. Gong therefore admits that the data communication link may

use multiple local cellular communication networks and therefore these devices are capable of

meeting the "distinct from" limitation.

3.   uCloudlink's Expert Reimagines the '689 Patent to Try to Convince this Court that the uCloudlink Devices Cannot Ever Infringe

Dr. Olivier focuses much of his analysis on what amounts to a "primary" use case, in which

a uCloudlink device attempts to obtain a cloud SIM that is capable of connecting with the same

local cellular network used by the seed SIM. *See, e.g.*, Dkt. 293-1 at 12 n.1. But the fact that

system attempts first to have the seed SIM and cloud SIM use the same wireless communication

network is not relevant to the '689 Patent's claim terms. As this Court has construed the patents,

the relevant question is *only* whether the "data communication link" <u>exclusively</u> uses "*the* local

cellular communication network."[4] If the data communication link does not *exclusively* use the

local cellular communication network, then the device is capable of operating according to the

claims and, in the Court's parlance "the Accused Products meet this limitation at least some of the

time. That is all that is necessary." Dkt. 163 at 28.

Rather than acknowledge that the devices are designed such that they still may infringe by

switching from a first network (AT&T) to a second, different network (Verizon), Dr. Olivier

<u>redefines terms of the patent</u> to avoid admitting that the devices may still infringe.

Dr. Olivier first redefines "*the* data communication link" beyond the plain language of the

patent and this Court's own statements. The antecedent basis for "*the* data communication link" is

disclosed early in claim 8: "establishing a data communication link <u>to transmit information among</u>

<u>the wireless communication client or the extension unit and the remote administration system.</u>"

'689 Patent at 25:14–16 (emphasis added). Acknowledging the plain language of the patent, and

presumably the subsequent use of "*the* data communication link," this Court has concluded, "[t]he

data communication link is established when the seed SIM communicates with uCloudlink's

backend servers." Dkt. 163 at 27; *see also id.* at 23–24 ("As SIMO points out, data is indisputably

exchanged between the Accused Products and the backend servers."). There is no dispute here: *the*

data communication link is created upon establishing a connection between the uCloudlink device

and the uCloudlink server so they may transmit data among one another. The yellow annotation

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[4] Dr. Olivier's reliance on limited data that happens not to reflect the contingency he concedes is possible is of no moment here. Dkt. 293-1 at ¶ 54; *see also* Ex. A at ¶ 58.

in the demonstrative exhibit from Mr. Welch's declaration (Ex. A at ¶¶ 44–46) illustrates the "data

communication link" of the claims.

Dr. Olivier, however, ignores the plain language of the patent, and the fact that the

"establishing <u>a</u> data communication link" limitation provides the antecedent basis for "*the* data

communication link." Specifically he limits the scope of *the* data communication link to the

process of "obtain[ing] a Cloud SIM." Dkt. 293-1 at ¶ 40. Dr. Olivier presents no support for this

restriction. The patent says <u>nothing</u> about obtaining a Cloud SIM and certainly does not limit the

purpose of *the* data communication link to obtaining a Cloud SIM. Indeed, pursuant to the '689

Patent, *the* data communication link is used after the device obtains the Cloud SIM, such as when

the device "relay[s] the local authentication information request to the remote administration

system" and when the device "obtains[] suitable local authentication information from the remote

administration system." '689 Patent at 25:25–31.

Dr. Olivier's need to reimagine the'689 Patent's language becomes apparent later when he

refers to Dr. Gong's explanation of the infringing contingency described above.

> If no Cloud SIM is available that can use the same network used by the seed SIM,
> in this example AT&T, then the device disconnects the seed SIM from AT&T's
> network and <u>establishes a new data communication link</u> with the seed SIM to a new
> network, e.g. T-Mobile, <u>to obtain a Cloud SIM</u> that will work on T-Mobile's
> network."

Dkt. 293-1 at ¶ 57 (emphasis added). By redefining the establishment of *the* data communication

network to the act of "obtain[ing] a Cloud SIM," Dr. Olivier attempts to say that the initially

established connection between the uCloudlink device and the uCloudlink servers becomes

irrelevant after the device switches networks. But there <u>remains only one data communication</u>

<u>link</u>, and that data communication link uses multiple cellular communication networks, including

at least one that is not *the* local cellular communication network. This is demonstrated by the lack

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of overlap between the yellow segments (the data communication link) and the green segment (the

local cellular communication network) in Mr. Welch's demonstrative. Ex. A at ¶¶ 44–46.

C.   uCloudlink Ignores Material Aspects of the Redesign

uCloudlink has made representations that have led this Court to believe that the redesigned

devices always operate on only a single network. In its Letter Brief dated September 28, 2019,

uCloudlink selectively quoted selections of the corporate representative's declaration:

> If for some reason the device cannot connect to that network, the device does **not**
> attempt to connect to a different network. Instead, the device will request a new
> SIM card from the back-end server. The device will repeat this process, trying
> different SIM cards until it finds one that is able to connect to the same network
> that was used to obtain the cloud SIM (here, AT&T). **In the unlikely event that
> no cloud SIM can be found that allows the device to connect to the same local
> network, the device is rendered inoperable and has no connectivity.**

Dkt. 275 at 4 (emphasis added). Thomas Gong's Declaration includes key language that, at best

for uCloudlink, obscures the issue before this Court:

> If, for some reason, the cloud SIM fails to connect to the Cellular One network on
> a roaming basis using the AT&T cloud SIM, the device does *not* try a different
> network. Rather, it requests a different cloud SIM from the backend server. This
> process repeats until a successful cloud SIM is returned. If no successful cloud SIM
> is found for Cellular One, the device disconnects from Cellular One. The device
> may repeat the entire process, starting with the seed SIM connecting to a network
> other than Cellular One, if one is available. **In the very unlikely scenario no
> network is available on which both the seed SIM and cloud SIM can use, the
> device is inoperable in that it has no connectivity.**

Dkt. 278 at 9 (emphases added).

In its latest briefing, uCloudlink is more nuanced in its representations. uCloudlink

removes the "device is rendered inoperable and has no connectivity" language, and describes *some*,

but not all of the ways the devices function, and leaves the conclusion to its expert. uCloudlink

ignores Dr. Gong's prior statement that the alleged design around devices become inoperable if a

compatible cloud SIM cannot be obtained. Dkt. 292 at 3–5. uCloudlink's explanation is

incomplete.   Contrary to Dr. Gong's explanation, Dr. Olivier concedes (as he must) that in the event there is no network available on which both the seed SIM and the cloud SIM can operate, the device *changes its network*. Dkt. 293-1 ¶¶ 92, 103. And as Mr. Welch explains, the change is to a network with which the device knows the received cloud SIM can operate. Ex. A at ¶ 37. That is, Dr. Gong's prior representations suggest that the devices cannot switch networks in the event the seed SIM and the cloud SIM do not share network compatibility; Dr. Olivier's expert declaration and Mr. Welch's subsequent analysis confirm that is *not* the case.

D.   uCloudlink Focuses on Immaterial Aspects of the Redesign

Dr. Olivier spends a substantial time explaining what the uCloudlink *servers* do in the redesigned context. *See, e.g.*, Dkt. 293-1 at ¶¶ 65, 70–74, 81–85. But claim 8 (and its dependent claims) in the '689 Patent are directed to "[a] wireless communication client or extension unit…." Accordingly, the server itself is not covered by the infringed claims, and changes to the server do not affect whether changes to the *device* are more than colorable or "significant," as Dr. Olivier contends are required here. Dkt. 293-1 at ¶ 32. The Court should see uCloudlink's argument about the servers for what it is: surplusage intended as a red herring. *See* Ex. A at ¶ 60.

Dr. Olivier also focuses on several checks *added* to the device code before the device switches from a first network (AT&T) to a second (Verizon). *See, e.g.*, ¶¶ 75–77, 86–91.[5] These changes also do not affect the "colorable differences" analysis, as the proper inquiry (per Dr. Olivier) is, "[w]here one ore more features previously found to infringe have been modified or removed," are those "differences between the old and new features *significant*." Dkt. 293-1 at ¶ 32 (emphasis added); *see also* Ex. A at As discussed above, those minor changes (which Mr. Welch estimates affect less than 0.1% of the requested source code) are insignificant. Ex. A at ¶ 55.

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[5] Dr. Olivier also offers several opinions that do not impact this Court's analysis at all; Mr. Welch details the reasons the Court can ignore these paragraphs. Ex. A at ¶¶ 58–63.

III.   **CONCLUSION**

Both parties' experts concede that the redesigned uCloudlink devices, like the original uCloudlink devices, in certain scenarios switch networks from, for example, AT&T to, for example, Verizon. This switch is not significantly different in the redesigned devices because it merely follows several additional checks that are a part of an attempt to obtain a proper cloud SIM before causing the switch. As such, the differences between the features found to infringe and those in the redesigned products are not colorably different or significant, and the Court's prior injunction should continue to apply to the redesigned products.

  Date: November 27, 2019

                                                    /s/ Matthew J. Weldon

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ATTORNEYS FOR PLAINTIFF
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<u>CERTIFICATE OF SERVICE</u>

The undersigned hereby certifies that on the 27th day of November, 2019, a true and correct copy of the foregoing document has been served on counsel of record who are deemed to have consented to electronic service via the Court's CM/ECF system.

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/s/ Matthew J. Weldon
MATTHEW J. WELDON, ESQ.

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